

xSil 251 HDD/CD+HDD MFG Tool User Manual

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**OnSpec Electronic, Inc.
V1.00**

Revision History		
Date	Version	Reason for Change
August 16, 2006	V1.00	Initial revision

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1.Introduction

This document describes and discusses in detail the requirements of xSil 251 CD+HDD MFG tool Multi Device preparation.

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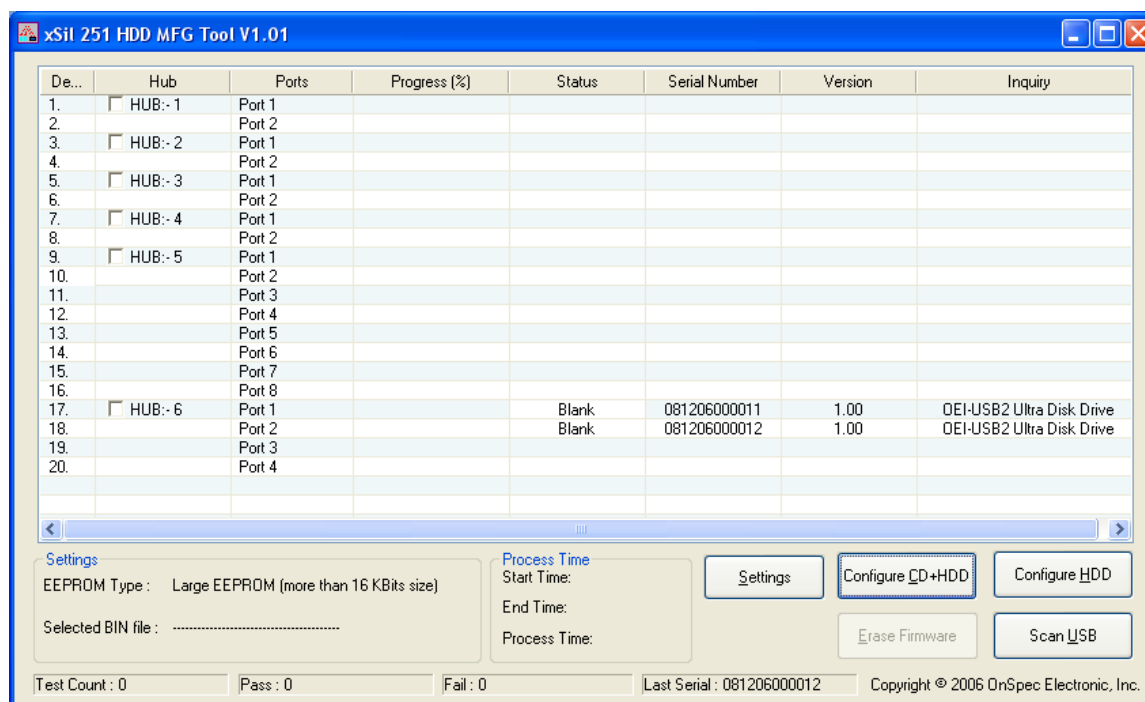
2.Application Design

2.1 Functionality of xSil 251 CD+HDD MFG Tool application [MP251MFG.EXE]

1. Using the application the user can prepare more than one devices at a time.
2. The Devices when plugged will not have icon in My Computer.
3. When user selects the option to configure the HDD the application will write the BIN in the EEPROM and HDD/CD+HDD data as per user selection. Using Setting options customization can be done.
4. After preparation unplug the devices. Then the user can plug the next set of devices for preparation without closing the application.

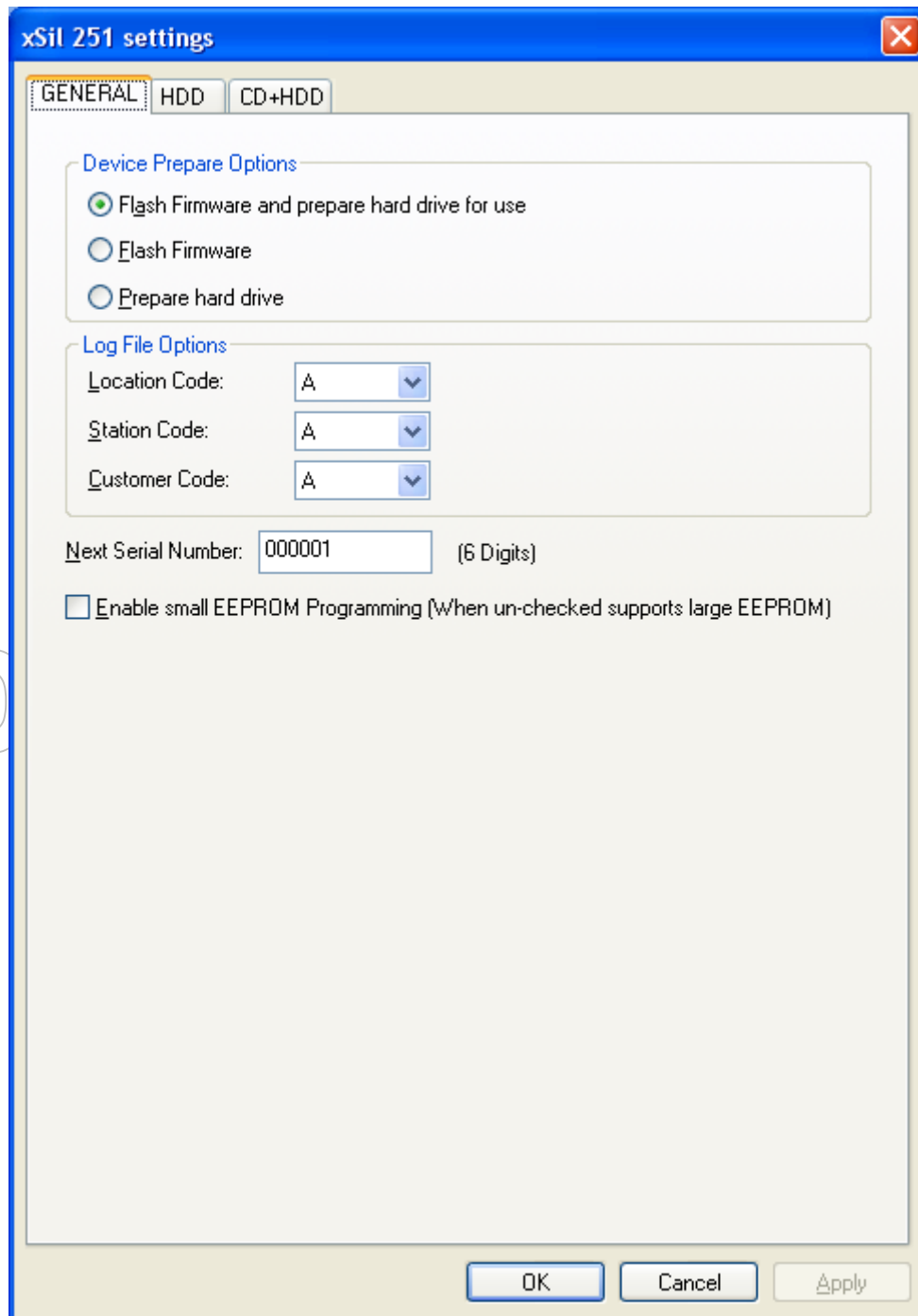
2.1.1 UI of MP251MFG.EXE

1. The UI of the MP251MFG.EXE with devices,





2. By clicking Settings button xSil 251 settings dialog appears. By default General Tab is selected.



The image shows the 'xSil 251 settings' dialog box. It has a blue title bar with a close button (X) in the top right corner. Below the title bar are three tabs: 'GENERAL' (selected), 'HDD', and 'CD+HDD'. The 'GENERAL' tab contains the following options:

- Device Prepare Options:**
 - ☒ Flash Firmware and prepare hard drive for use
 - ☐ Flash Firmware
 - ☐ Prepare hard drive
- Log File Options:**
 - Location Code: A (dropdown menu)
 - Station Code: A (dropdown menu)
 - Customer Code: A (dropdown menu)
- Next Serial Number: 000001 (text field) (6 Digits)
- ☐ Enable small EEPROM Programming (When un-checked supports large EEPROM)

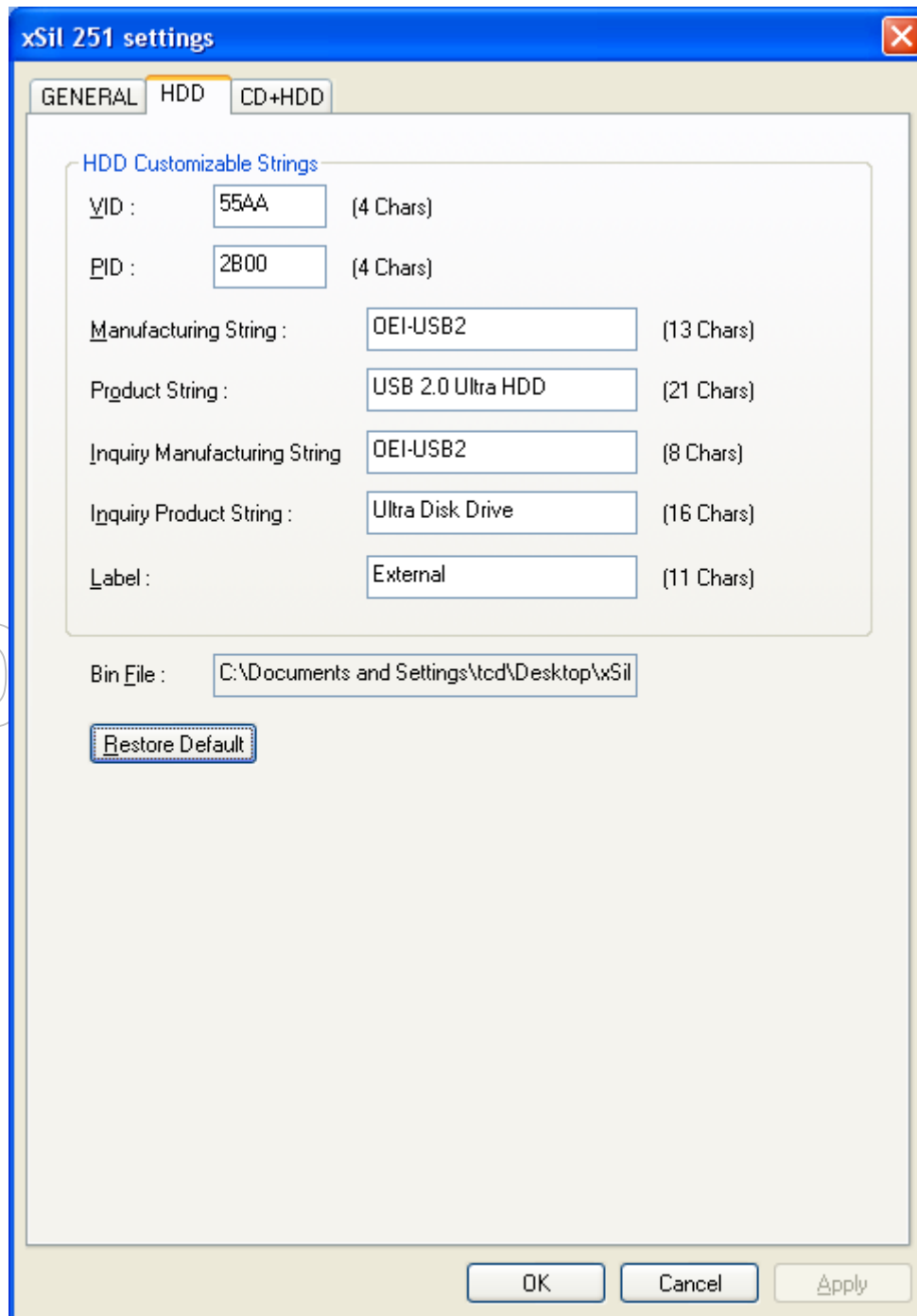
At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Apply'.



- a) In Device Preparation option,
 - Select Flash Firmware and prepare hard drive to flash the bin into EEPROM and to prepare Hard Drive
 - Select Flash Firmware to flash the bin into EEPROM without preparation.
 - Select Prepare hard drive to prepare the Hard drive alone.
- b) Use 'Log File Options' to give last three characters for the log file name.
- c) Use 'Next Serial Number' to give the serial number for the next device.
- d) Select 'Enable small EEPROM' if EEPROM is small.

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By clicking the HDD tab the following dialog appears. Here the VID, PID, Inquiry strings, Manufacturing & Product string can be customized.



The image shows a Windows-style dialog box titled "xSil 251 settings". It has three tabs: "GENERAL", "HDD", and "CD+HDD". The "HDD" tab is selected. Inside the dialog, there is a section titled "HDD Customizable Strings" which contains several text input fields with their respective character limits:

Field	Value	Length
VID :	55AA	(4 Chars)
PID :	2B00	(4 Chars)
Manufacturing String :	OEI-USB2	(13 Chars)
Product String :	USB 2.0 Ultra HDD	(21 Chars)
Inquiry Manufacturing String	OEI-USB2	(8 Chars)
Inquiry Product String :	Ultra Disk Drive	(16 Chars)
Label :	External	(11 Chars)

Below these fields is a "Bin File" field with the path "C:\Documents and Settings\tcd\Desktop\xSil". At the bottom left of the dialog is a "Restore Default" button. At the bottom right are "OK", "Cancel", and "Apply" buttons.

To change the VID & PID, enter the new VID & PID in the corresponding text boxes. To change the manufacturer & product string for the HDD bin file, enter the new Manufacturer string & Product string in the corresponding text boxes.



To change the inquiry strings for the HDD bin file, enter the Inquiry Manufacturing String & Inquiry Product String in the corresponding text boxes. Use the Label to set the volume label of HDD. Click 'Restore Default' to restore the default values.

By clicking the CD+HDD tab the following dialog appears. Here the Password, Hint, Labels can be customized.

The screenshot shows the 'xSil 251 settings' dialog box with the 'CD+HDD' tab selected. The dialog has three tabs: 'GENERAL', 'HDD', and 'CD+HDD'. The 'CD + HDD Strings' section contains fields for VID (55AA, 4 Chars), PID (2B33, 4 Chars), Manufacturing String (OEI-USB2, 13 Chars), Product String (USB 2.0 CD + HDD, 21 Chars), Inquiry Manufacturing String (Lun 0) (OEI-USB2, 8 Chars), Inquiry Product String (Lun 0) (CD-ROM Drive, 16 Chars), Inquiry Manufacturing String (Lun 1) (OEI-USB2, 8 Chars), and Inquiry Product String (Lun 1) (Ultra Disk Drive, 16 Chars). Below this is a 'Secure Settings' section with a checked 'Secure HDD' checkbox and an unchecked 'Verify CD' checkbox. The 'Secure Settings' section includes a Password field (12345, 10 Chars) and a Hint field (12345 is the Password, 150 Chars). The 'Label (11 Chars)' section has a CD Label field (Password) and an HDD Label field (Secure Disk). The 'Bin File' field shows the path C:\Documents and Settings\tcd\Desktop\xSil 251 HDD. There is a 'Restore Default' button. At the bottom, there are 'OK', 'Cancel', and 'Apply' buttons. A 'Note' at the bottom states: 'VID/PID and Manufacture string can't be changed for CD+HDD option. If you wish to have custom VID/PID please contact OnSpec for more information.'

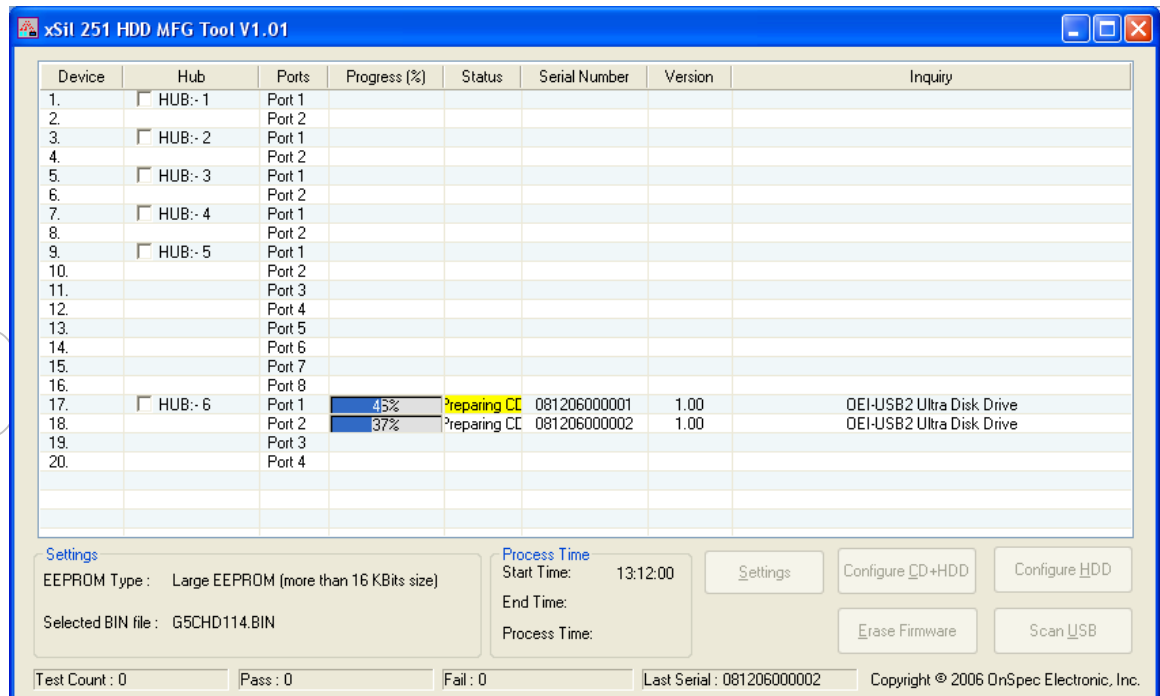
Select 'Secure HDD' to create the CD+HDD partition in secure mode. Else CD+HDD partition is created in Public mode.

If 'Verify CD' is selected the application will do the binary comparison between OEITMP directory and CD. If it is not selected then the application configures the HDD without doing comparison. Give the Password to authenticate in Password text box. Give the hint to retry the password if it is loosed.

Use 'CD Label' to set the volume label of CD when CD+HDD is configured.
Use 'HDD label' to set the volume label of HDD, when CD+HDD is configured in secure mode. Click 'Restore Default' to restore the default values.

Note: For CD+HDD VID, PID, Inquiry strings, Product string, Manufacturing String cannot be customized.

- When the user selects the Configure CD+HDD. Then the application will create the CD partition first and continue with writing the file system for HDD partition and Flash the Bin file into EEPROM. If the application faces any issue while writing the CD partition data or HDD file system then it will not flash the bin file in EEPROM. The screen shots of the processes are as given below.



Writing files into CD partition



xSil 251 HDD MFG Tool V1.01

Device	Hub	Ports	Progress (%)	Status	Serial Number	Version	Inquiry
1.	<input type="checkbox"/> HUB:- 1	Port 1					
2.		Port 2					
3.	<input type="checkbox"/> HUB:- 2	Port 1					
4.		Port 2					
5.	<input type="checkbox"/> HUB:- 3	Port 1					
6.		Port 2					
7.	<input type="checkbox"/> HUB:- 4	Port 1					
8.		Port 2					
9.	<input type="checkbox"/> HUB:- 5	Port 1					
10.		Port 2					
11.		Port 3					
12.		Port 4					
13.		Port 5					
14.		Port 6					
15.		Port 7					
16.		Port 8					
17.	<input type="checkbox"/> HUB:- 6	Port 1	67%	Preparing HD	081206000005	1.00	OEI-USB2 Ultra Disk Drive
18.		Port 2	40%	Preparing HD	081206000006	1.00	OEI-USB2 Ultra Disk Drive
19.		Port 3					
20.		Port 4					

Settings
EEPROM Type : Large EEPROM (more than 16 KBits size)
Selected BIN file : G5CHD114.BIN

Process Time
Start Time: 13:13:28
End Time:
Process Time:

Test Count : 4 Pass : 4 Fail : 0 Last Serial : 081206000006 Copyright © 2006 OnSpec Electronic, Inc.

Buttons: Settings, Configure CD+HDD, Configure HDD, Erase Firmware, Scan USB

Writing file system for HDD partition

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xSil 251 HDD MFG Tool V1.01

Device	Hub	Ports	Progress (%)	Status	Serial Number	Version	Inquiry
1.	<input type="checkbox"/> HUB:- 1	Port 1					
2.		Port 2					
3.	<input type="checkbox"/> HUB:- 2	Port 1					
4.		Port 2					
5.	<input type="checkbox"/> HUB:- 3	Port 1					
6.		Port 2					
7.	<input type="checkbox"/> HUB:- 4	Port 1					
8.		Port 2					
9.	<input type="checkbox"/> HUB:- 5	Port 1					
10.		Port 2					
11.		Port 3					
12.		Port 4					
13.		Port 5					
14.		Port 6					
15.		Port 7					
16.		Port 8					
17.	<input type="checkbox"/> HUB:- 6	Port 1	50%	Flashing BIN	081206000009	1.00	OEI-USB2 Ultra Disk Drive
18.		Port 2	50%	Flashing BIN	08120600000A	1.00	OEI-USB2 Ultra Disk Drive
19.		Port 3					
20.		Port 4					

Settings
EEPROM Type : Large EEPROM (more than 16 KBits size)
Selected BIN file : G5CHD114.BIN

Process Time
Start Time: 13:14:46
End Time:
Process Time:

Test Count : 8 Pass : 8 Fail : 0 Last Serial : 08120600000A Copyright © 2006 OnSpec Electronic, Inc.

Buttons: Settings, Configure CD+HDD, Configure HDD, Erase Firmware, Scan USB

Flashing the bin file G5CHD114.BIN into EEPROM



xSil 251 HDD MFG Tool V1.01

Device	Hub	Ports	Progress (%)	Status	Serial Number	Version	Inquiry
1.	<input type="checkbox"/> HUB:- 1	Port 1					
2.		Port 2					
3.	<input type="checkbox"/> HUB:- 2	Port 1					
4.		Port 2					
5.	<input type="checkbox"/> HUB:- 3	Port 1					
6.		Port 2					
7.	<input type="checkbox"/> HUB:- 4	Port 1					
8.		Port 2					
9.	<input type="checkbox"/> HUB:- 5	Port 1					
10.		Port 2					
11.		Port 3					
12.		Port 4					
13.		Port 5					
14.		Port 6					
15.		Port 7					
16.		Port 8					
17.	<input checked="" type="checkbox"/> HUB:- 6	Port 1	100%	PASS	081206000009	1.00	OEI-USB2 Ultra Disk Drive
18.		Port 2	100%	PASS	08120600000A	1.00	OEI-USB2 Ultra Disk Drive
19.		Port 3					
20.		Port 4					

Settings
EEPROM Type : Large EEPROM (more than 16 KBits size)
Selected BIN file : G5CHD114.BIN

Process Time
Start Time: 13:14:46
End Time: 13:14:55
Process Time: 00:00:09

Test Count : 10 Pass : 10 Fail : 0 Last Serial : 08120600000A Copyright © 2006 OnSpec Electronic, Inc.

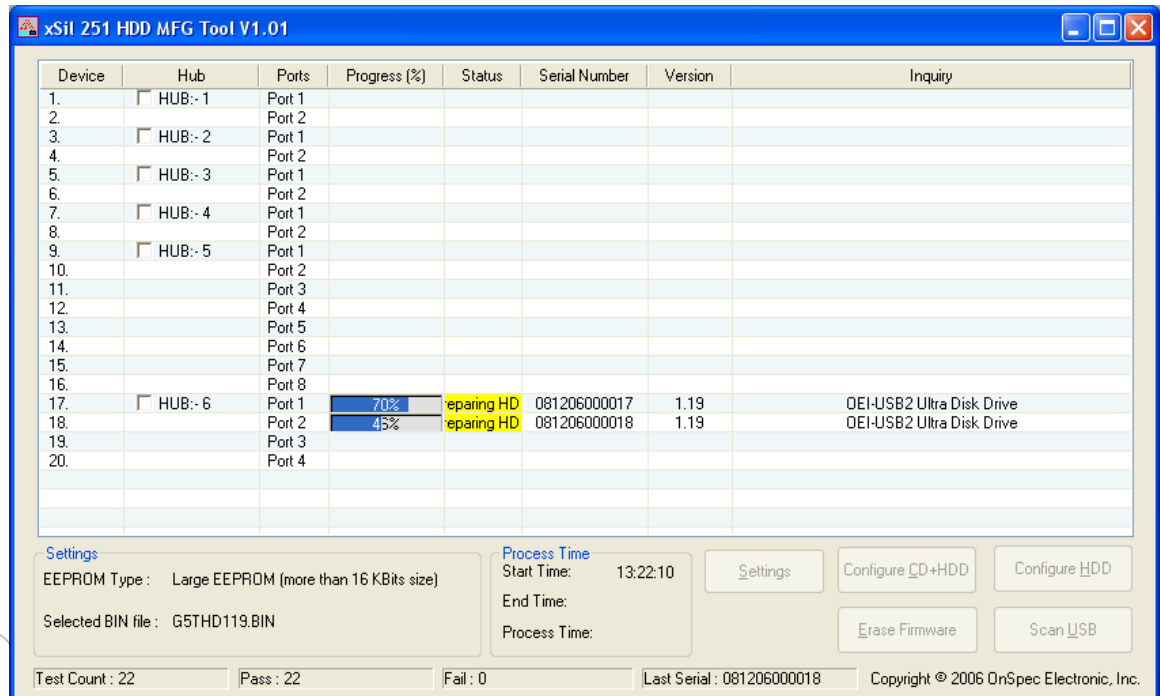
Buttons: Settings, Configure CD+HDD, Configure HDD, Erase Firmware, Scan USB

Selected operation completed successfully

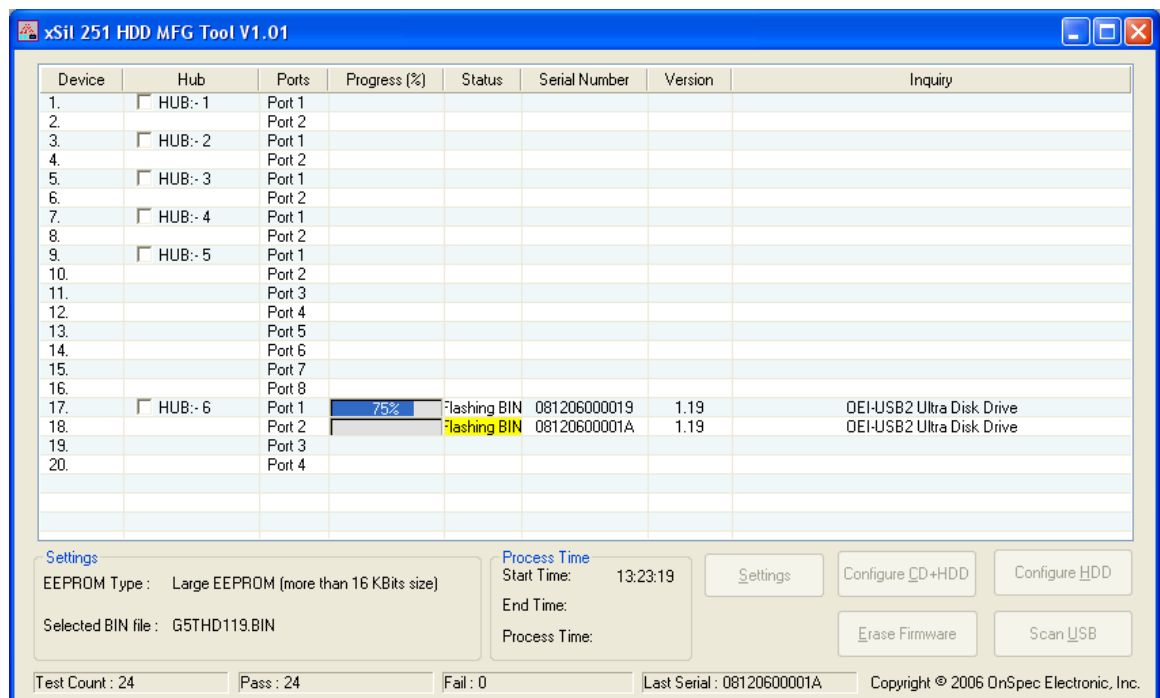
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- When the user selects the Configure HDD. The application will write the file system into the HDD and Flash the Bin file into EEPROM. If the application faces any issue while writing the file system then the application will not flash the bin file in EEPROM. The screen shots of the processes are as given below.



Writing file system into HDD



Flashing the bin file G5THD119.BIN into EEPROM



4. Click 'Erase Firmware' to erase the bin.

xSil 251 HDD MFG Tool V1.01

Device	Hub	Ports	Progress (%)	Status	Serial Number	Version	Inquiry
1.	<input type="checkbox"/> HUB:- 1	Port 1					
2.		Port 2					
3.	<input type="checkbox"/> HUB:- 2	Port 1					
4.		Port 2					
5.	<input type="checkbox"/> HUB:- 3	Port 1					
6.		Port 2					
7.	<input type="checkbox"/> HUB:- 4	Port 1					
8.		Port 2					
9.	<input type="checkbox"/> HUB:- 5	Port 1					
10.		Port 2					
11.		Port 3					
12.		Port 4					
13.		Port 5					
14.		Port 6					
15.		Port 7					
16.		Port 8					
17.	<input type="checkbox"/> HUB:- 6	Port 1	100%	PASS	08120600000F	1.19	OEI-USB2 Ultra Disk Drive
18.		Port 2	100%	PASS	081206000010	1.19	OEI-USB2 Ultra Disk Drive
19.		Port 3					
20.		Port 4					

Settings
EEPROM Type : Large EEPROM (more than 16 KBits size)
Selected BIN file : ZERO.BIN

Process Time
Start Time: 13:18:33
End Time: 13:18:33
Process Time: 00:00:00

Test Count : 16 Pass : 16 Fail : 0 Last Serial : 081206000010 Copyright © 2006 OnSpec Electronic, Inc.

Buttons: Settings, Configure CD+HDD, Configure HDD, Erase Firmware, Scan USB

Firmware erased successfully

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3. INI Settings

- a) INI file has the following entries based on the following entries the application will work. The device entries are used for device detection.

```

;-----
; Give the device details for example
; EXAMPLE
; =====
; VID =0x55AA
; PID =0xB000
; If the device inquiry string is OEI-USB2 SMART HDD DRIVE then put the value as
; INQUIRYSTR =SMART HDD DRIVE
;----- */
[DEVICEDetails]

VID0=0x55AA
PID0=0x2B00
PRODUCTSTR0=ultra
VENDORSTR0=OEI-USB2

VID1=0x55AA
PID1=0x2B33
PRODUCTSTR1=CD
VENDORSTR1=OEI-USB2
;-----
;FLASHBIN--> If this value is Yes then Flashing will be done.
;PrepareHDD --> If this value is Yes then preparation will be done.
;Either one of the above value should be set for the application to
;work flawlessly else the application will quit saying invalid INI option
;-----
FLASHBIN=YES
PrepareHDD=YES

```

The Key entries of the FLASHBIN & PrepareHDD provide the option either to flash the bin file or to prepare the HDD alone. i.e. if both Flashbin & PrepareHDD is set to yes then it will write both the BIN in the EEPROM and HDD/CD+HDD data as per user selection. The user can set this entries using Settings options in xSil 251 HDD MFG Tool V1.02.

FLASHBIN=YES
 PrepareHDD=YES

FLASHBIN: If this value is yes then Flashing will be done else application will prepare HDD without flashing the bin file.

PrepareHDD: If this value is yes then preparation will be done else application will simply flash the bin file without preparation.

Important: Either one of the above value should be set for the application to work flawlessly else the application will quit saying invalid INI option



- b) The entries under the section Bin file has the name of the bin files to be flashed for different modes.

```

;-----
; Set the Bin File details for example
; EXAMPLE
; =====
; HDDBINFILE =G5THD110.BIN → Bin file for configuring xSil 251 as HDD
; CDHDDBINFILE=G5CHD105.BIN→Bin file for configuring xSil 251 as CD+HDD
; HDDVID=55AA //VID to set in HDD bin file
; HDDPID=2B00 //PID to set in HDD bin file
; CDHDDVID=55AA//VID to set in CDHDD bin file
; CDHDDPID=2B00//PID to set in CDHDD bin file
;----- */
[BINFILE]
HDDBINFILE=G5THD116.BIN
CDHDDBINFILE=G5CHD111.BIN
HDDVID=55AA
HDDPID=2B00
CDHDDVID=55AA
CDHDDPID=2B33
HDDMFGSTRING=OnSpec
HDDPRODUCTSTRING=USB 2.0 Ultra HDD
CDHDDMFGSTRING=OnSpec
CDHDDPRODUCTSTRING=USB 2.0 Ultra CD + HDD

```

The user can use Settings option in xSil 251 HDD MFG Tool V1.02 to customize the new VID&PID, Manufacturing String & Inquiry Strings for HDD bin file .

To customize the new VID & PID for CD+HDD bin file (CD+Secure mode) enter the VID, PID in the Key CDHDDVID & CDHDDPID respectively.

CDHDDMFGSTRING:

To change the manufacturer string for the CD + HDD bin file, enter the manufacturer string to be change in this key.

CDHDDPRODUCTSTRING:

To change the product string for the CD + HDD bin file, enter the product string to be change in this key.

- c) The entries under the section SecureSettings have the options for creating the CD+Secure device. Application will check for the value SECUREHDD if it is YES then the password and password hint are read from the corresponding INI keys. If the SECUREHDD option is NO and user selects the Create CD+HDD options then the drive will be created as CD+Public.

```

;-----
; Set the security partition creation details here
;----- */
[SECURESETTINGS]
; If set to YES create CD+Secure HDD else CD+Public
SECUREHDD=yes
; If SECUREHDD=YES give the default password and Hint here
PSWD=12345
PSWDHINT=12345 is the Password
HIDDENIZE=0
VERIFYCD=0
;Add the volume labels to the partitions created. Max length is 11 characters
SECLABEL=SECURE DISK
PUBLABEL=PUBLIC DISK
HDDLABEL=NEW VOLUME

```




CDLABEL=OnSpec

The user can set the above entries using Settings option in xSil 251 HDD MFG Tool V1.02.

- d) The entry under section SerialNo have the option to Change the serial number Randomly. Can set the starting number here. i.e. the first six digit of the serial number will be the current date (MM/DD/YY/) of the system which is used during configuration. The user can set the serial number using Settings option in xSil 251 HDD MFG Tool V1.02

```
;-----
; Serial number of the next device
;----- */
[SERIALNO]
SERIALNUM=000001
```

- e) The entry under DLGButtons section is used to enable and disable the CONFIGHDD and CONFIGHDD buttons.

```
;-----
; Enable the buttons based on the INI settings.
;CONFIGCDHDD-->If this value is yes it enables Configure CD+HDD Button.
;CONFIGHDD-->If this value is yes it enables Configure HDD Button.
;----- */
[DLGBUTTONS]
CONFIGCDHDD=YES
CONFIGHDD=YES
```

- f) The entries under default section is used to set the Default values.

```
;-----
; Default values for Restore Default
;----- */
[Default]
HDDBINFILE=g5thd119.BIN
CDHDDBINFILE=g5chd114.BIN

HDDVID=55AA
HDDPID=2B00

HDDMFGSTRING=OEI-USB2
HDDPRODUCTSTRING=USB 2.0 Ultra HDD

HDDINQMFGSTRING=OEI-USB2
HDDINQPRODUCTSTRING=Ultra Disk Drive

SECUREHDD=YES

VERIFYCD=0

SECLABEL=Secure Disk
PUBLABEL=Public Disk
HDDLABEL=External
CDLABEL=Password

PSWD=12345
PSWDHINT=12345 is the Password
```